

HEALTH NUMBER

THE RED MAN

An Illustrated Magazine Printed by Indians

MAY 1914

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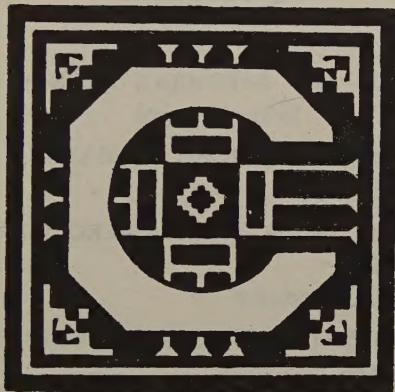
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IF FOR the next hundred years our schools would discontinue all higher and æsthetic education and devote their energy to improving the human stock; to feeding and breeding; to teaching that acquired traits die with the body, that inherited traits pass to the next generation, and that the laws of heredity are constant and the same for bug and man; to developing athletically the weak pupil instead of the strong, making the average improvement of health in school a prize-winning contest instead of the fastest mile or highest jump; and to educating the people to know that environment is important but heredity more important—if this were done, at the end of a century we should find the people not only 100 years older but 100 per cent better, stronger, and wiser.

DR. R. W. CORWIN



A magazine issued in the interest
of the Native American

The Red Man

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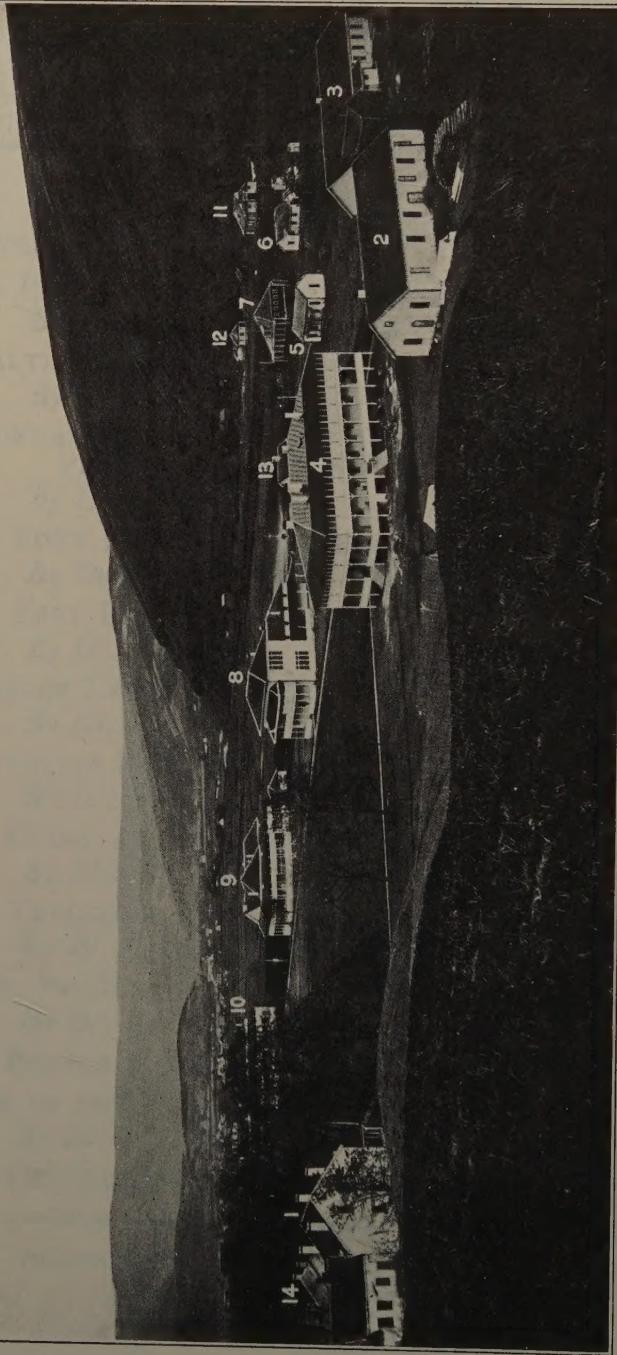
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OSCAR H. LIPPS, Supervisor in Charge.

SANATORIUM SCHOOL, FORT LAPWAI, IDAHO

No. 1. Superintendent's house, employees' mess, and official guest room. No. 2. Commissary. No. 3. Laundry and Carpenter shop. No. 4. Employees' dormitory (not completed when picture was taken). No. 5. Residence of physician, Nez Perce Agency. No. 6. Engineer's residence. No. 7. Nez Perce Agency. No. 8. School building and chapel. No. 9. Girls' building and dining-room. No. 10. Boys' building. No. 11 and 12. Buildings belonging to school district No. 57, Nez Perce County. No. 13. Top of chimney, barely seen, office of the Sanatorium. No. 14. Employees' quarters, Nez Perce Agency.





THE RED MAN



Editorial Comment

The Boarding School Routine.



THE daily program in many of our boarding schools is something like this: Rise at 6:00 in the morning; breakfast, 6:30 to 7:00; putting rooms in order, 7:00 to 7:30; those on the work details, to work, 7:30 to 11:30; others to school, 8:30 to 11:30; get ready for dinner, 11:30 to 12:00; dinner, 12:00 to 12:30; afternoon work details to work, 1:00 to 5:00; others to school, 1:15 to 4:00; get ready for supper, 5:00 to 5:30; supper, 5:30 to 6:00; attend religious or other meetings, 6:15 to 7:00; study hour, 7:00 to 8:00; gymnasium, 8:00 to 9:00; to bed at 9:30.

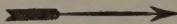
Considering that these duties are nearly all performed under supervision and all movements in bodies executed at the tap of the bell, so to speak, no doubt the above program is rather strenuous, especially for a class of students whose tender years have been spent largely in the great out-of-doors and without much note of time. But then there is discipline. How is that to be maintained without order and system? Moreover, we have accustomed ourselves to think that all the things we require are necessary and essential.

A few years ago we were advised to discontinue the evening study hour because it was thought best for the health of the pupils, and more especially as a protection to their eyes, and to substitute therefor some general exercise where close application of the eyes would not be required. The experiment was not successful, at least in the larger schools, for the reason that it was found that students must have a definite time set apart in which to prepare their lessons. It is necessary for most white pupils in the advanced grades to study at night if they are to keep up with their classes and make satisfactory progress in their studies, and it is likewise necessary for Indian pupils in advanced grades to do so.

Temperance, Industry, and Health.



IF OUR Indians friends would only adopt "temperance and industry" as their motto, and live up to it, they would soon find themselves growing in bodily and mental vigor and regaining the "falcon glance and lion daring" for which their race was originally so noted. Perfect bodily form and health would then be the rule and not the exception, as is now the case among many of the tribes. The leasing of their lands and spending the proceeds in easy, careless, and often riotous living is the bane of many Indians who, if they would settle down to earnest work—farm their own lands, keep a few chickens, cows, pigs etc.—would encounter fewer temptations, suffer fewer headaches and heartaches, and have more happiness and better health.



Blood Pressures as Found in the Indian.



R. HARLEY STAMP, of the University of Pennsylvania, is spending several weeks at the Carlisle School making records of blood pressures as found in Indian pupils.

After a number of years of successful practice, Dr. Stamp is now giving his time to research work among and for the benefit of the American Indians.

He spent practically all of last winter among the Indians of Maine and among tribes in Canada. His records made among those Indians disclosed the fact that their blood pressure was considerably above that of normal whites. At Carlisle he hopes definitely to determine whether this is a racial characteristic or whether the difference is due simply to environment and mode of life.

The University of Pennsylvania has assigned to Dr. Stamp the "Harvey" Laboratory in the new Biological Building at that institution, which is the finest of its kind in the United States. His work is being done from a purely scientific standpoint, and he personally pays all of his own traveling and other expenses in addition to giving his time. Attention is called to his article on "Blood Pressure Studies in the Amerindian," published in this issue of THE RED MAN.



H. WERTZ

The Passing of the Medicine Man:

By Dr. A. M. Wigglesworth.



HE Medicine Man is passing, and the assembly bell of the Government school is the knell of his departure. He and his powerful ally, the old woman of the tribe, form the center of superstition. He is passing, and alas, no one cries halt except the tourist who comes among us in more fantastic garb than the Indian himself. "Leave the Indian alone," says this tourist, "he is so picturesque in the wild landscape." No doubt he is good material for magazine writers, but we do not see it their way, and prefer a citizen to a savage. We want a factor in the body politic, able with hand and brain to help in the world's work, not a hanger-on at county fairs, doing impossible war dances or selling genuine native herbs ostensibly of native manufacture, but really put up by a big eastern drug house. Furthermore, we may change the landscape. Doubtless the Indians looked very picturesque at Plymouth in 1620. How would they fit the landscape now?

Among our Navajo the Medicine Man will hold forth for a long time yet. When we consider that only two out of five Navajo children may ever see the inside of a school room, the reason is obvious. With a population of 27,000, these Indians have, to combat disease among them, five hospitals where Indians other than pupils are received, with a total of about one hundred beds in all, and eleven physicians. It is easily seen that the bulk of sickness must be handled by our friend, the Medicine Man.

Poor old Medicine Man! After all, our fight is not against him, but against the superstition of his followers, and as Nye puts it, "The dawn of reason is breaking o'er the musty old catacombs of misguided belief." The Medicine Man may not understand disease, but his grandchildren write essays on tuberculosis and trachoma. Personally, the writer does not find any competition from the Medicine Man. He is no doctor at all, but only the high priest of a classified demonology, licensed to cast out devils. Please do not say this is professional jealousy, for we do not recognize him as a practitioner. · We don't even bear him a grudge for the scores of miles we have gone over the burning sands, only to find some con-

sumptive whom he had mulcted of every sheep, and called us at the end in order to advertise that we had caused the death. With his buffalo tail rattle or strands of bear's claws and deer hoofs, his sand paintings, his eagle feathers, his tortoise shell, and corn pollen, his power is only that of suggestion. He is no better nor worse than the white quack doctor and not so dangerous as the patent medicines. If we were sick, we should just as soon sit on a devil's head of varicolored sand and listen to the chanted prayer tuned to the rattle of gravel in a gourd, as to lie down with a nickel-plated cartridge filled with iron pyrites sunk in cold water and attached by a long wire to our sore spot, or write out our symptoms to a distant doctor who will take a *personal* interest in our case.

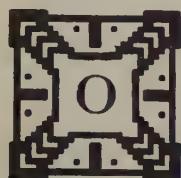
Let the Medicine Man pass, for down here his followers are showing a discontent with his methods and are impatient at his lack of results. First, they doubted his diagnosis, for the cases always followed the way we said. Where first called to diagnose, we are now allowed to treat patients in the camp. His drugs are inert or misdirected and his favorite tricks are known to his people. We, too, have cut out the wolf's fang and demonstrated the trick to his followers. We, too, have drawn the feather from the cut in the aching brow, and have shown how we did it. Old tricks they are and out of date even with Indians. They had their birth in the cradle of every nation, but are passed now. Medicine Men, not few, but many, enter our hospitals at Fort Defiance. They know, and their followers know, that we are right. We deplore the delay, but we know from experience that in time they must all come to us. They appreciate our skill with drug or knife, but sometimes delay too long. The work of ministering to the many sick is too great to bother about the hysterical that still go to the Medicine Man.

We had in our hospital at Fort Defiance from July 1, 1912, to July 1, 1913, one year, 113 male and 105 female Indians, reservation Indians, not pupils; 218 cases in all, ill enough to be admitted to any hospital and mostly operative cases; hence it would seem that education must be having an effect. We thus see our Medicine Man stripped of all but his tail feathers. Plucked of his medical prestige, let us now turn him over to the missionary, whose enemy he really is, and sincerely hope for his full conversion before his last final passing out, so that the trail he leaves in departing be not marred by the slime of the serpent.

Health Conditions Among Indians:

By Edgar B. Meritt,

Assistant Commissioner of Indian Affairs.



ONE of the most serious and acute problems confronting the Indian Service is the alarmingly great prevalence of trachoma and tuberculosis among the Indians of this country. Discussing this matter before the Lake Mohonk Conference on October 23, 1912, I said:

It is apparent from actual conditions on various Indian reservations that there is an excessive percentage of diseases among Indians, especially tuberculosis and trachoma, that should not exist and should be gotten under control at the earliest moment possible. The present medical force is entirely inadequate to handle the situation, and I am strongly in favor of a very large appropriation by Congress that will enable the Indian Service to bring about improved health conditions among the Indians. The President in a message to Congress last summer, set out very admirably the great need of larger appropriations for the Indian Medical Service. The health and sanitary work among Indians should be very largely increased. The death rate among whites is estimated to be 15 per 1,000, while the death rate among the Indians is more than 30 per 1,000. It is also estimated that 30 per cent of the total number of deaths among Indians is due to tuberculosis, whereas only about 11 per cent of deaths among whites due to tuberculosis. These startling figures show clearly the great need of enlarging the Indian Medical Service and giving more careful attention to conserving the health and lives of the Indians.

Reports show that there are about 70,000 Indians in the United States who are suffering from trachoma, a disease so serious and contagious that immigrants afflicted with it are excluded from this country. Indians in all parts of the country are gradually losing their sight as a result of the effects of this disease, because of the lack of attention and facilities with which to check its progress and dire effect. This dreaded disease of trachoma has now passed beyond an Indian menace, it having been transmitted to white people living among Indians and around Indian reservations. Its danger to the citizenship of the country, without regard to race, is now plainly apparent and henceforth must of necessity receive the serious attention not only of the Federal Government but a number of State governments as well.

Tuberculosis is also alarmingly prevalent among Indians. About twelve per cent of the Indians of the country, or nearly 30,000 Indians, are afflicted with tuberculosis. The death rate

among the Indians from this disease according to population is more than twice that among whites, and were it not for the high Indian birth rate, the Indian population, because of these deplorable health conditions, would be decreasing rather than show a slight increase.

It has been said on good authority that the annual cost to the Nation of tuberculosis would more than pay the expense of both Army and Navy. The toll of tuberculosis among Indians amounts to nearly 2,000 lives each year. In the Indian country the great white plague has continued for many years its destruction of human life with but little effective opposition and until this year with but slight preparation for its treatment.

The insanitary housing conditions existing generally among Indians have contributed a very great share to their unsatisfactory health conditions. There are about 8,000 Indian families, consisting of not less than 40,000 Indians, who are without permanent homes, but who live in tepees or hogans or other crude contrivances, with dirt floors, bad ventilation, and surrounded by deplorable and revolting conditions of sanitation. A large number of other Indians live in small frame houses, under crowded and insanitary environments that make the propagation and transmission of diseases almost inevitable. This situation has existed for years notwithstanding the fact that the Indians own nearly \$100,000,000 worth of timber. We are now urging superintendents to make use of the thirty-two saw-mills in the Indian Service to supply the Indians with material with which to improve their homes. There are also thousands of Indian families living in insanitary and disease-breeding shacks and hovels who own hundreds of acres of valuable lands but who are without funds to improve their homes. It is our purpose to encourage the Indians to sell enough of their surplus lands to build suitable houses and equip their farms, so that they may make use of their retained allotments and live under conditions that will develop character and conserve the health of the family.

In accordance with the provision of an act of Congress approved August 24, 1912, a most thorough and exhaustive report upon the prevalence of contagious and infectious diseases among Indians, with recommendations as to their prevention and treatment, was made by the Public Health Service January 27, 1913, and was printed as Senate Document No. 1038. These conclusions are, in brief, as follows:



A TUBERCULOUS PATIENT AND BEDDING COVERED WITH FLIES



FRONT VIEW OF CARLISLE SCHOOL HOSPITAL, SHOWING OUT-DOOR SLEEPING ADDITIONS

Trachoma is exceedingly prevalent among Indians.

The incidence of tuberculosis among Indians is greatly in excess of that estimated for the white population, and the undertaking of immediate means of relief are indicated.

The sanitary conditions of reservations are, on the whole, bad, and require improvement in housing conditions and habits of living.

The primitive Indian requires instruction in personal hygiene and habits of living, especially in stationary dwellings and practical education in such matters must make the basis of future advancement.

The sanitary conditions in most Indian schools are unsatisfactory because of one or more of the following conditions: Overcrowding, inadequate equipment, imperfect sanitary supervision, and lack of observances of necessary sanitary precautions.

There is danger of the spread of tuberculosis and trachoma from the Indian to other races by reason of the increasing intercourse taking place between them.

Due care is not exercised in the collection and preservation of records of morbidity and mortality.

The medical branch of the Office of Indian Affairs is hampered in accomplishing effective work in curing and preventing diseases, (a) because of insufficient authority in medical and sanitary matters; (b) because of existing obstacles, such as racial characteristic, present economic status of the Indians, and varying physical conditions on reservations; (c) because of inadequate compensation, absence of reasonable expectation of promotion, and lack of esprit de corps and coordinate organization.

The suppression of tuberculosis and trachoma among Indians will be difficult. Long continued efforts and the expenditure of considerable funds will be required.

The Joint Congressional Indian Commission, of which Senator Joe T. Robinson is chairman, made a most interesting and enlightening report on the health conditions existing among Indians, which is found in Senate Document No. 337, Sixty-third Congress, third session. As a result of the investigations of this Joint Indian Commission, and reports made by the Indian Office to the Senate and House Indian Committees during this session of the Congress, there is now in the Indian appropriation bill, as reported to the Senate, the following important item of legislation:

To relieve distress among Indians and to provide for their care and for the prevention and treatment of tuberculosis, trachoma, smallpox, and other contagious and infectious diseases, including the purchase of vaccine and expense of vaccination, correction of sanitary defects in Indian homes, \$310,000.

Provided, That not to exceed \$100,000 of the amount herein appropriated may be expended in the erection, equipment, and maintenance of camp and pavilion hospitals for the use of afflicted Indians, and especially for the treatment of Indians afflicted with tuberculosis and trachoma. No hospital shall be constructed at a cost to exceed \$12,500. Said sum to be immediately available and to remain available until expended. Said hospitals to be constructed in the open market under the supervision of the Commissioner of Indian Affairs:

Provided further, That so much of the Act of March third, nineteen hundred and thirteen (Thirty-sixth Statutes at Large, page ten hundred and seventy-five), as authorizes the sale and conveyance of the lands, buildings, and other appurtenances of the Old Fort Spokane Military Reservation, in the State of Washington, be, and the same is hereby, repealed; and not to exceed \$10,000 of the amount herein appropriated, or so much thereof as may be necessary, shall be used for the equipment and maintenance of said buildings for hospital purposes for the use and benefit of such Indians as the Secretary of the Interior may designate:

Provided further, That hereafter the Secretary of the Interior shall submit to Congress annually a detailed report as to all moneys expended in the erection of hospitals as provided for herein:

Provided further, That whenever the Secretary of the Interior shall find any Indian afflicted with tuberculosis, trachoma, or other contagious or infectious diseases, he may, if in his judgment the health of the afflicted Indian or that of other persons require it, isolate or quarantine such afflicted Indian in a hospital or other place for treatment. The Secretary of the Interior may employ such means as may be necessary in the isolation or quarantine of such Indian, and it shall be the duty of such Indian so afflicted to obey any order or regulation made by the Secretary of the Interior in carrying out this provision.

In addition to the above, there are also items appropriating \$50,000 for a hospital for the Choctaw and Chickasaw Indians, \$75,000 for hospitals for the Chippewa Indians, and \$40,000 for the Fort Lapwai Sanatorium in Idaho.

If these appropriations are finally enacted, and with the aid of the already organized force of two hundred physicians, seventy nurses, and eighty matrons now in the Indian Service, we hope soon to begin a comprehensive health campaign that will result in great good, by improving the health, home, and sanitary conditions of the Indians under the jurisdiction of the Federal Government.





Important Phases of the Tuberculosis Problem:

By Dr. F. Shoemaker.



IN OUR efforts to upbuild and improve the Indian race, there are constantly arising grave and important problems to be solved, yet there are none of more importance to the destiny of the race than the control of tuberculosis.

It is generally conceded, I believe, that tuberculosis was not known to the Indian in his primitive state, and before the invasion of the white man. The first mention I have been able to find in the literature bearing on this subject is that of a few cases of so-called scrofula that were encountered by the Jesuit Fathers in the Dakotas in the latter part of the seventeenth century. Since its introduction it has gradually and steadily increased, owing, no doubt, to the Indian's changed environment and adoption of civilized modes of life, until now it has become a veritable scourge, one that threatens the very existence of the race.

The Indian, in common with other dark-skinned races, seems peculiarly susceptible to tuberculous infection, which susceptibility can only be explained on the theory of immunity. Assuming, then, that the Indian, the Negro, and the Eskimo are at present more prone to tuberculosis than the white races, the only plausible explanation for this so-called racial predisposition is, not that they have dark skins, but because they have but comparatively recently adopted civilization with its attendant tuberculous infection, while the white race is more or less protected by a degree of immunity that has come to it through centuries of infection.

The incidence of tuberculosis among the different Indian tribes

has been variously estimated at anywhere from one to one hundred per cent, and attended, as it is, by a large mortality, the rate of which is approximately three times greater than that of the whites. In view of this large incidence of tuberculosis among the Indians, and its attendant high mortality rate, it is necessary to consider further the reasons for this widespread prevalence of the disease, and determine how these conditions can be improved.

Aside from the apparent lack of immunity existing in the Indian as mentioned above, his home and social conditions, by which he is surrounded from infancy up, are important factors concerned in the spread of the disease. Tuberculosis is preeminently a house-bred disease arising from the contamination of homes by careless and ignorant consumptives. It is not, strictly speaking, a contagious disease, as this term is generally understood, but in the vast majority of cases is contracted by living in infected rooms and taking into the body the specific organisms of the disease.

The two principal routes for infection are by the respiratory tract and the gastro-intestinal tract, and infection of the lungs may result in either case. Some authorities consider the former the usual route of invasion by the tubercle bacillus, while others attach more importance to the ingestion method as the more frequent one. Whatever the means of entrance of the specific germ, the original source of infection is the germ-infected sputum that has been allowed to contaminate the room and the surroundings by careless spitting, or by droplets of saliva that have been given off by coughing. The tonsils have been demonstrated as a frequent point of entrance for the tubercle bacillus, particularly in children, the organism passing from the tonsils to the lymphatic gland in the vicinity, and from here reaching the lungs. In our efforts to prevent the development of tuberculosis in susceptible individuals, the importance of the proper treatment of the tonsils should not be overlooked.

The home conditions of the Indian, as frequently seen on the reservation, are ideal for the dissemination of tuberculosis. Since adopting civilization he has changed his type of habitation from the primitive, though, owing to his habit of life, more sanitary, tepee to the one and two-room box house, while his habits and knowledge of hygiene have not kept pace with his changed surroundings. The Indian home, often provided with a dirty floor only, is frequently too small, overheated, overcrowded, dark, and unventilated.

They are, all too often, contaminated by infected sputum, while they are frequently conspicuous for their lack of cleanliness. These conditions, together with a lack of nourishing food, disinclination for healthful work, tendency to dissipation, and the apparent lack of immunity of the Indian, all help to account for the excessively high death rate from tuberculosis. In addition to his insanitary surroundings, as a cause for the spread of tuberculosis, the Indian's love for social intercourse also plays an important part. He is fond of visiting and often spends days in visiting among his friends, sick and well together.

It is now considered that in practically every case of tuberculosis the infection has taken place before the age of fourteen years, probably during infancy or early childhood, though it may not manifest itself until later in life. There is considerable evidence to show that children have less resisting power against the tubercle bacillus than adults, which fact is all the more important as they are almost constantly exposed to the various means of infection in the home. This, of course, applies very forcibly to the Indian child. If he happens to be born of tuberculous parents, he is in constant danger of infection from close contact that is sure to exist between mother and child. He frequently plays on the floor and, owing to his propensity for placing all objects possible in his mouth, organisms from this source often find lodgement in his intestinal tract. If his power of resistance is sufficient the disease becomes latent and an artificial immunity is set up, until later in life, if his resisting power from one cause or another becomes weakened, he falls a prey to his own germs.

The prophylaxis of tuberculosis is so essentially related to its causation and manner of spread that one cannot be considered without the other.

Generally speaking, the two main factors concerned in the cause and prevention of tuberculosis are exposure to infection by the tubercle bacillus and a diminished resistance to infection by the tubercle bacillus; and it therefore follows that in addition to avoiding infection as much as possible every means should be taken to maintain and build up the resisting power of the individual.

As regards the Indian, the most important consideration should be given to attacking the problem at its source—the home. By all means the home conditions should be improved. A better type of

dwelling should be provided, and he should be educated in the sanitation and hygiene of the home. Education, though seemingly gradual in its results, is perhaps the most important agency at our disposal by which we can hope to accomplish a transformation of the race.

The house should be sufficiently large to avoid overcrowding, and separate rooms should be provided for sleeping, eating, and living. More field workers should be placed in the field, and the Indian should have constantly brought before him the importance of cleanliness in the home. The danger of promiscuous spitting must be taught and, should a member of the family be stricken with consumption, the proper disposal of the sputum and the importance of segregating the sick should especially be given consideration. Ventilation and lighting, both of which are inimical to the well-being of living germs, should be generously provided for in all houses that are built for the Indians' use. A proper method for the disposal of waste matter of all kinds should be taught, the water supply should be maintained at as high a degree of purity as possible, and he should be encouraged in the keeping of cows, chickens, hogs, etc., in order to improve, as much as possible, his food supply. Many other conditions pertaining to the home and individual might be suggested, with a view of building up and fortifying the resisting power, but those that have been mentioned are among the most important.

In our efforts to combat tuberculosis among the Indians and control its spread, the importance of protecting children from infection during the first few years of life should be emphasized. This is perhaps one of the most important questions in the whole field of tuberculosis prophylaxis. In this connection it might be well to recall the fact that, owing to the peculiar susceptibility of childhood to tuberculosis, every care should be taken throughout our Indian schools toward the production of a clean, healthy milk supply.

Before it will be possible to control the spread of tuberculosis among the Indians, it will be necessary to provide for the segregation and control of all cases of the disease in an advanced stage, those that are the most liable to spread the infection. The Indian is, up to the present time, naturally averse to separating from the sick members of his family, but this will, no doubt, in the course of time be overcome.

It will be necessary to construct more hospitals and camps for the care and treatment of tuberculous cases, in addition to those that are already in successful operation, and which, though they are accomplishing much good, are entirely inadequate. In view of the Indian's disinclination to leave his home, it would seem that more institutions of this kind should be established on the different reservations throughout the country. Although it may not be possible to retain all patients under treatment long enough to effect a cure, the educational feature of a properly conducted hospital for the tuberculous is extremely valuable. A sojourn in an institution of this character should have the effect of training the patient in the proper care of the sputum and other means of prevention, so that, on his return home, he will no longer be a source of danger to his family and friends.

In conclusion, then, of this brief consideration of some of the important phases of the tuberculosis problem, it might be well to repeat that tuberculosis in the Indian seems to be on the increase; that, in the majority of cases, the infection occurs during childhood; that the source of infection is usually the sputum-infected home; that insanitary home conditions and their social habits and customs are responsible for the spread of tuberculosis among the Indians; that, to control its spread, it will be necessary to improve home conditions, and to educate the Indian along the line of building up his resisting power; and, finally, to establish a sufficient number of hospitals and camps for the care and segregation of the sick, especially the advanced cases.





What Is Being Done for the Indians in the Fort Lapwai Indian Sanatorium:

By Dr. John N. Alley.



STUDENT returned from a non-reservation school about five years ago with tuberculosis and was given special treatment at the Fort Lapwai Indian School, Idaho. This developed such gratifying results that, after an experimental sanatorium conducted for two years in the old military hospital building, when over one hundred children were treated for incipient tuberculosis, it was decided to remodel the entire boarding school plant at Fort Lapwai into an Indian sanatorium for the treatment of incipient tuberculosis. Its location in the Lapwai Valley, in the foot-hills of the Bitter Root Mountains, in a mild and equitable climate, with cool, refreshing nights in summer and seldom zero weather in winter (contrary to what might be expected so far north), made it an especially well adapted spot for this kind of work, easy of access from the main line of the Camas Prairie Railroad, a branch of the Northern Pacific.

The aim of the sanatorium is to restore to health Indians, from six to twenty-one years of age, suffering with incipient tuberculosis, at the same time giving them education and industrial training, compatible with attainment of good physical condition, with a view of their future usefulness and the making of good citizens.

When it is considered that of something over four hundred and fifty Indian patients treated in the sanatorium since its organization,

the majority of these would have died without special treatment and care; that eighty per cent have been discharged with the tuberculous process arrested; with only five per cent of deaths (and these were sent to the sanatorium in the advanced stage of the disease, and were not incipient cases) the question as to whether sanatorium work for Indian children suffering with incipient tuberculosis is worth while answers itself.

The influence of the sanatorium has been very widespread, as pupils from about thirty-five different Indian tribes from various parts of the United States have been treated here; the teachings and benefit of its work have been especially felt upon the Indians of the Northwest. The Nez Perces, the Indians of the direct locality of the sanatorium, have been reported as the most tuberculous of the Indian tribes, and for years before the establishment of the sanatorium they steadily decreased from eighteen hundred to thirteen hundred. In the last two years the decrease has been checked, and they have begun to increase, owing to observance of more sanitary living, resulting from teachings of those in the Indian work, and largely the education diffused from the sanatorium in the prevention of and protection against tuberculosis.

When traveling over the reservation certain building improvements, since the establishment of the sanatorium, are very noticeable. Modern houses are being built, with good ventilation, and many of them have sleeping porches. From the teachings of the sanatorium the Indians learn, not only how the disease may be overcome, but radically how to live so as to *prevent* it. Parents of patients come and ask us what to do so that the disease may be kept away. We find that even the very little children go home and tell about what they do and are taught in the sanatorium in order to grow well, and to continue so, and to keep from becoming ill. Through returned sanatorium patients lies the real dissemination of the education in the prevention of tuberculosis, the care during the disease, and protection of one's self and others against it, for such Indians have lived and experienced practically the knowledge they have gained, are always the best argument to others to be instructed. Therefore, though even one of the older patients may not remain to establish his recovered health, yet the value of the sanatorium education is fully apparent in that he is equipped to govern his future, if he will, against the disease, and teach others what he knows.

Great emphasis is laid upon the every-day habits of living within reach of almost every one, so that our patients when leaving us may tell others who cannot go to a sanatorium how they may help themselves to keep well. Every Indian may not be able to go to a sanatorium, nor have special medication, nor tuberculin, etc., but, almost to all, if the effort is made, plenty of fresh air is within reach, and the means to keep the body and living quarters clean. To keep from spitting about and teach others not to do so can be practiced anywhere. If there is coughing, and necessity to expectorate, a cup may be made of ordinary paper at home, just as well as in a sanatorium (our patients are taught how to make a sputum cup of ordinary wrapping paper or even newspaper), and burned. Teeth may be cleaned with a cloth and water when brush and tooth powder are not available. Food can be kept covered and free from flies when screens cannot be obtained. To teach sanatorium patients how to live while in the sanatorium is not enough. Patients should be impressed with the necessity for and taught how to *find a way to continue to live, and teach others how to do so, in the home conditions of the reservations, to prevent illness, and care for those already ill, especially of those coughing, and most likely having tuberculosis.* Patients, while given every scientific means for combatting tuberculosis, are most carefully taught the importance and right use of those things available to every one in every-day living and habits, and turning these to best account toward good health and keeping it, and helping others to do the same.

The sanatorium organization has been worked out with great care, and every employee is required to co-operate in its ultimate aim, that each patient may be given the maximum of all the sanatorium has to offer. Dependent upon physical condition a program fitting into the general sanatorium program is most carefully prepared daily by medical authority for each individual, so that each may have exactly the right amount of rest, treatment, nourishment, exercise, recreation, and class-room work in order to grow well. Work is permitted only as an adjunct to good recovery, though for the time exercise is allowed the child is as carefully taught as any not depleted in health. Those able to go take up school-room work for two hours daily; others not so strong go for an hour and are given special studies. The school is organized up to and including the eighth grade. Several having passed the eighth grade are doing special

work, including shorthand. Suitable amusements, most of them out of doors and recreations, always under medical supervision, are provided for, and the sanatorium playgrounds are a feature of the work. Patients are taught to value the giving of an unquestioning, prompt obedience; of thinking and living right morally as being absolutely essential to good health, to the attainment of a fine manliness and womanliness, and to claim the right of holding a place among others.

That the process of tuberculosis can be arrested in Indian children suffering with incipient tuberculosis has been fully demonstrated in the last few years. Advanced cases often improve, but it is the cases that are detected in the beginning (when the child has been found restless and listless, showing no interest in his surroundings, with, perhaps a subnormal temperature, of a slight rise of temperature at times) who will improve and be most benefited by sanatorium care and treatment. Those coming in contact with Indians and Indian school work should remember this, and make every effort to detect at the earliest possible moment those children having tuberculosis, if the best results are to be obtained for them.

In following up some of our patients dismissed from the sanatorium in those instances when we have met with cooperation in obtaining information, the reports have been very gratifying. Fully nine-tenths of those returned have remained in good health, and are trying to carry out the principles of right living as taught them while resident in the sanatorium. Extracts from letters, such as these, come to us:

Your discharged patients are all in good health, and rigorously obeying the laws of health instilled into them at your institution, sleeping in the open air, etc.—(This from the Spokane Agency.)

Here is another interesting incident:

One of our patients, while temporarily at home, taking charge in a several days' absence of his parents, had a younger brother run outside into a pool of water, getting his feet wet. His older brother (the patient referred to) took him in, telling him that he had been disobedient, and might play outside no longer; and, as he had gotten his feet wet, and likely to become ill, he would be treated as a child, anyway. Then, taking off the wet clothing, he put his little brother to bed, got him warmed up, cared for him until the parents' return, observing exactly the methods practiced in the sanatorium, both regarding the discipline for the disobedient and the care to prevent possible illness, very neces-

sary in this case, as this child has since been entered in the sanatorium as tuberculous; wet feet, in his case, and to be allowed to run about and play in such condition would undoubtedly be followed by serious consequences.

And many other similar incidents might be related showing the influence and results of the education given in the sanatorium. Efforts are being made to futher systematize and investigate the living conditions and state of health of our dismissed patients, so that we may know how each one sent from the sanatorium is getting along. Again the sanatorium influence runs all through a communication such as this:

Please give me particulars of your methods of treating tuberculosis, so that I may follow your plan in cases I can't send there.

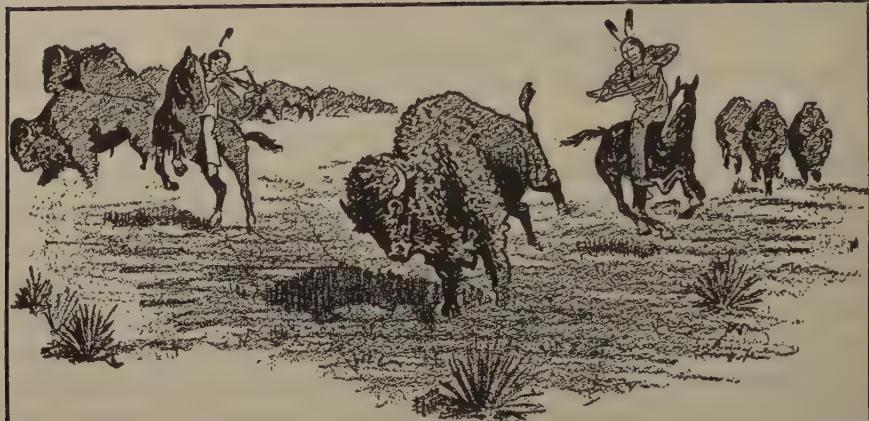
It has already been stated that each patient is treated individually, so that each may have exactly that which best suits his case in order to arrest the tuberculous process. Rest plays an important part in treatment of tuberculosis. All wards here are out-of-door sleeping porches; and the class-room work is done also out of doors, except in stormy weather, when the indoor school rooms are used. Exercise, school work, and recreation are permitted to the extent of aiding recovery, medical authority conceding the keeping of patients interested as essential to overcoming disease. As nutritious a diet (the sanatorium's own dairy, farm, and orchard contributing largely) is given as can be assimilated. Medication and treatments employ every available means within knowledge of medical science-medicines; tuberculin, in selected cases; serums and vaccines where indicated; laboratory and microscopic examination governing the kind and quantity of treatments given.

In summing up that for which the sanatorium stands—as an institution for the treatment, education, and training of Indians within certain ages suffering with incipient tuberculosis; as a center of instruction for prevention of and protection against tuberculosis, to be adapted to the living conditions of the reservations, as well as practiced in those of a sanatorium; as an influence all through the surrounding community, not only among Indians, but among white people as well, toward more sanitary and healthful living, one must not forget the far-reaching influence such an institution exerts; also through its constant visitors, who come, asking intelligently the causes and prevention of tuberculosis, as well as the care of it during the disease, and protection against it, with an especially aroused

interest in the Indians themselves. A right knowledge of any disease—especially tuberculosis, from which no race is free,—obtained by every Indian and white person, and the prevention of disease, means the protection and preservation of these races. The health of the Indian and white man necessarily react upon each other in communities in which there is constant association, a fact for deep consideration if the hope of the Indian's future is to be realized in a place among American people. He has as much right to require that near-by white communities observe certain standards of healthful living as that he himself should practice them. Public health officers and medical men of the Indian Service should cooperate if the best good for the health of the Indian is to be brought about. That both Indians and the general public can be taught the science of keeping well by the methods and routine practiced in a sanatorium, directly and through dissemination of the knowledge acquired, is hardly to be doubted.

During the warmest part of summer a sanatorium camp is established up in the Craig Mountains for a month. This is very much enjoyed by the patients, and is organized as a hospital camp, where the regulations of the sanatorium, adapted to camp conditions, are as strictly carried out as when at home down in the valley. It is with very sincere gratitude to the Indian Department especially, and other interested and faithful employees, that the help and interest and cooperation which have made this work possible for the Indians are acknowledged.





The East Farm Sanatorium School: *By Dr. Jacob Breid.*

ASMALL per cent of the pupils enrolled in the various Indian boarding schools have found it necessary, regardless of the care and attention received, to leave school on account of illness. This illness quite frequently represents the beginning of tuberculosis in the individual. It has been observed, quite naturally, that when these pupils were sent back to the reservations, where they did not receive good care, many of them did not recover. It was believed that if they could be sent to some place where they would have rest and proper food many of them would get well in a short time and be able to continue their school work. With this in mind it was decided to establish a small temporary camp to care for the tuberculous pupils of the Phoenix and other Indian schools in this section of the country. The site selected was the extreme southeast corner of the Indian school farm, $1\frac{1}{4}$ miles east of the school. The tract of land consists of 80 acres and was designated as the "East Farm," to distinguish it from the school farm proper, upon which the school is located. The name of the farm was used as the name of the sanatorium, and it is now called the East Farm Sanatorium.

The first buildings occupied were an old adobe house, which was used for kitchen and dining room, and three small tent houses. The first patients, consisting of three girls, were sent to this camp in charge of a matron during the month of November, 1909. The number of patients has increased from time to time until we

have to-day 71—33 girls and 38 boys. This number would be increased to more than 100 if we had room to accommodate them. New buildings have been added as rapidly as practicable, and when the present plans are completed the institution will accommodate 100 patients.

The object of this institution, in its broadest sphere, is three-fold. 1. To get the patients well. To treat those infected with tuberculosis, and to care for those in whom we have reason to suspect the development of a tuberculous process. 2. To keep the patients and their associates well. To teach them how to safeguard themselves and others against the spread of disease. 3. To keep pupils in school. To enable the individuals to pursue their studies, while they are regaining, to a certain degree at least, their former health.

(1) The treatment of these patients is quite like that given in other similar institutions. Grossly, we divide the work into three parts, no one of which is independent of the others. The first and most important thing for many cases is rest. This does not mean that the patient is placed in bed as soon as he is received in the institution if the condition does not warrant it, but a certain part of each day is set aside as the rest period, and he is required to recline either on his bed or a couch during that part of the day. The patient is required to rest and is not excused even though he feels quite well. All patients retire early, and if they so desire, they are allowed to rise about six o'clock.

Patients running any temperature are not permitted to exercise except during a short time in the forenoon. Even then they are not permitted to be out of bed if there is temperature during the forenoon. It is quite often the case that patients will have a normal temperature except for a short time during the afternoon. In such cases the patient may be allowed to take moderate exercise during the forenoon, but is placed in bed during the afternoon. It is quite common to observe a rapid decline in temperature in many of these cases after the patients have absolute rest. The temperature may entirely disappear in a short time, and the only treatment given be rest with a good nutritious diet.

Another requisite is fresh air and sunshine. The fresh air we secure by having the patients live in screened houses during the entire year. For the boys we have a bungalow type, which consists

of a small room 12 x 14 feet, with screened openings on the four sides. These openings are protected by canvas flaps, or curtains, but these are never closed except in case of storms, and then on not more than two sides. This method insures a maximum of fresh air and a certain degree of privacy at a minimum cost. These bungalows are built for two patients each. The female patients occupy the second story of the main building, but this second story is nothing more than a large screened porch, the openings of which, as in bungalows, are protected by canvas curtains. They can sleep in the open with perfect comfort, for it is seldom cold or disagreeable at night.

We have in this valley the maximum amount of sunshine. There are very few days in the entire year during which the sun does not shine. During the winter months it is very pleasant in the open air and the patients enjoy taking a sun bath, especially during the early part of the morning.

In addition to rest and fresh air, special attention is given the food. This, as well as rest, is a very important factor in the treatment of tuberculosis. In this section of the country it is not difficult to have fresh vegetables for at least ten months of the year. Milk, butter, and eggs are produced in abundance at a reasonable cost and are always fresh. A special effort is made to get an abundance of milk, eggs, fresh vegetables, as well as all other standard foods. The patients are allowed to lunch at stated intervals when they so desire, but lunching between meals is not a requirement. It is believed that the appetite and digestion are frequently injured by too frequent feeding, and that a good appetite for a full meal at mealtime is far better for the patient than a lunch and a light meal. Many patients request a glass of milk or an egg between meals and their request is always granted, if at proper interval between meals. It appears that little or no good is accomplished by insisting on the patients taking food at stated intervals if they do not desire or relish it.

While the rest, air, and food are of great importance, they are not the only factors. Medical and surgical treatment is used when indicated. Tuberculin is used in selected cases. An effort is made to put all hygienic and therapeutic measures of value into effect.

(2) We attempt to keep before the minds of the patients in a

practical way the necessity of learning how the disease is spread and the means that they should use to prevent its being transmitted to others or reinfecting themselves. This work is carried on in the class room, by lectures, and the personal instruction of the physician, nurses, and other employees of the institution.

Patients learn quickly the most important measures in preventing the spread of the disease, that is, to use the sputum cup, which is burned, and not to expectorate on the ground or floor. It is gratifying to note how quickly the boys and girls will resent the presence of a visitor if they see him spitting on the ground. This phase of the work is very important, for these patients must take part in the general health work when they return to their homes on the reservation. I am sure that many of the boys and girls realize this and it is not uncommon to receive letters from former patients telling us how they appreciate the training they received in the sanatorium, and how they are trying to carry out the instructions given them while receiving treatment. It is not difficult to get the patients to appreciate the value of protective measures when they once realize the results of negligence.

While the class-room work in the sanitorium may seem of little significance, we believe it is of the greatest importance from various standpoints. In the class room we are able to aid the patients not only in continuing their regular education, but we can teach them many things that will be of particular benefit to them when they return to their homes. Many of these boys and girls were the brightest and best pupils in the school from which they came and are eager to learn.

The time spent in the class room depends upon physical condition of the patient. Most of them attend but one-fourth of each day, that is, about $1\frac{1}{2}$ hours. School opens at 8 o'clock in the morning and closes at 11:45. It again opens at 3 o'clock in the afternoon and closes at 4:30. This schedule was arranged in order that the time from noon to 3 o'clock might be given over entirely to rest. The activities of the sanatorium, so far as the patients are concerned, are suspended during that period, and there is no excuse for any patient not having the prescribed amount of rest. It was found that if there was a session of school during that period certain patients would not rest as well as they would otherwise. Moreover, it was found to be very difficult to secure rest if we assigned certain period while others were engaged in some line of work.

The class-room work for the most of the year has not been satisfactory, due entirely to the absence of a regular teacher. Since the arrival of the regular employee the work has progressed more satisfactorily. An accurate record is being kept for the purpose of determining the relative amount of school-room work a patient can do and at the same time recover from an active tuberculosis. The school work is a decided benefit to most patients for it keeps them occupied. Many of these patients were open cases of tuberculosis, but the disease has been arrested and at the same time they have progressed rapidly in their studies. Many of those receiving treatment were extremely anxious to continue their studies, and it is a source of gratification to them to be able to go to school while they are getting well. All classes were conducted in the open air.

Results.

Two hundred and twenty-seven have been treated in the sanatorium, 115 male and 112 female. There were 25 in whom tuberculosis was suspected, but a positive diagnosis was not made; 135 were classed as incipient, 22 moderately advanced, 22 advanced, 4 acute pneumonia, 7 bone, 11 glandular and 1 laryngeal. Of the suspected cases, 22 improved, two remained the same, and 1 died. In the incipient cases the disease was arrested in 49, improvement in 80, no improvement in 8, results unknown in 5, and 3 died. In the moderately advanced, the disease was arrested in 1, improvement in 7, no improvement in 5, 4 became worse, and 5 died. In the advanced cases, 3 improved, 1 remained the same, and 18 died. One of the acute pneumonic cases improved and 3 died. In the glandular cases, 1 recovered, 6 improved, 3 remained the same and 1 became worse. 1 case of bone tuberculosis recovered, 1 improved, 3 remained the same and 2 became worse. The one case of laryngeal tuberculosis died.

The results in the total cases are as follows:

Disease arrested in.....	52
Improvement	109
No improvement.....	23
Results unknown.....	5
Died	31
Total.....	220

It is very probable that a large per cent of those in whom the

disease is arrested and many of those reported improved have in reality recovered. They are quite well at the present time and if there is no manifestation of the disease for a period of time we will be justified in classing them as recovered.

Tuberculosis was not the cause of death in all cases. Many of those reported dead had returned to their homes and other causes in some cases at least contributed to the cause of death.

From February 1 to April 10 there were 45 pupils attending school, 28 girls and 17 boys. There were 6 in the first grade, 7 in the second, 17 in the third, 5 in the fourth, 6 in the fifth, 3 in the sixth, and 1 in the eighth. The average age of the first was 11, second 12, third 14, fourth 16, fifth 17, sixth 17, and the eighth 20.

The average time spent in the class room was $1\frac{1}{4}$ hours, or a little less than one-half the time allowed in the regular course of study. The pupils did no regular industrial work, but assisted in the routine work of the sanatorium. The progress of the school work was quite satisfactory considering the time devoted to the work. The time spent in the class work was a little less than one-half the time usually required, but the first grade did 50 per cent of the prescribed work in this time, the second 40 per cent, the third 45 per cent, the fourth 48 per cent, the fifth 51 per cent, the sixth 58 per cent, and the eighth 75 per cent. There was but one pupil in the eighth. From this showing it is apparent that a pupil, even though he has tuberculosis, may, under proper conditions, secure a fairly good education.





The Work of Laguna Tuberculosis Sanatorium.

By Dr. Fred Dillon.

WITH the established fact before us that there are in the United States one million tuberculous people from which the "Grim Reaper" exacts annually a death toll equaled by no other disease, it becomes evident that for its eradication it must become a part of every individual's concern. Every individual must become interested in health conservation, and to be effective this interest must attain the status of business enterprise and the monetary consideration no less. During the past decade many millions have been expended in the campaign against tuberculosis. Much good has resulted from this campaign, notwithstanding the fact that the workers were lacking in most of the vital equipment for waging the campaign.

Fixed laws and rules governning the care and handling of this disease have been wanting, and at the present time are totally inadequate to the needs. The factors interested in health conservation are not of one accord in adhering to a definite and fixed plan of campaign, and from this much doubt, confusion, and inefficiency have resulted.

The experience of the past decade has served to establish facts where heretofore theories had held sway, and much of the early confusion and misunderstanding relative to the care of this disease has passed away. It has established the fact that with tuberculosis reaping an annual toll of one hundred thousand lives few

families have escaped its blight and none are immune; that during the formative stage of the campaign, while plans were being perfected and in the absence of the proper individual interest, equipment, and financial support, the death rate has been reduced eighteen per cent. The drop in the death rate has been sufficient to convince most of the skeptical that the effort has been worth while, which together with a better understanding of the etiology and prophylaxis of this disease has served to enlist many earnest and efficient workers in the cause, and the times are tending to the more ideal, when each home will become a miniature sanatorium and each occupant an earnest and efficient worker in the cause.

In the early stages of the campaign too much stress was placed upon the sanatorium and too little on the individual. The proportion of afflicted able to avail themselves of sanatoria treatment is comparatively small. The sanatorium must serve, therefore, as an example to a community of proper methods for individual care and the proper home life. The importance of prophylaxis must be carried forcibly to the individual, and he must be made to understand that in his interpretation "this is not a free country and he can not expectorate where he pleases" or otherwise endanger public health. The sanatorium is a means to an end. It is by no means the end. In caring for primitive people, where proper sanitary means can not be had in most cases, the sanatorium assumes a more important roll. Since it is impossible to command observance of rational sanitary measures in many of the Indian homes, it becomes necessary to remove the infected, and in many cases it would seem rational to remove children who are exposed by advanced and hopeless cases, and who can in no way be made to meet the requirements of sanitation.

The sanatorium for the treatment of incipient pulmonary tuberculosis was opened at Laguna, New Mexico, during the fall of 1910. It was later enlarged to its present capacity—twelve patients. The Pueblos were at first reluctant to accept this method of treatment, but are gradually accepting it as the most rational, and doubtless improved conditions in the future will forever banish their skepticism and enlist their earnest cooperation. The Indian has been offered rational treatment but a few years. The transformation from his ill-founded superstitious beliefs in "Spirit Healing," handed down by many generations of superstitious ancestors and in

which he had the most implicit faith, to our present-day accepted germ theory is striking. The older of the race can never understand, and in a mechanical way can cooperate poorly, if at all, and in view of this fact sanitaria treatment is made imperative as means to an end.

Thirty-six tuberculous patients have been treated since the opening of the plant. It has been the aim of the management to follow the instructions of the Commissioner of Indian Affairs and accept only incipient cases, those with a good prospect for a "cure," but owing to inability on the part of the management to at all times judge accurately the line of demarkation between incipiency and advancement, a few cases were accepted which were unimproved by treatment, and of this class two deaths resulted. At a time when they could be accepted without endangering others, two hopeless cases were admitted and cared for until death, that they might not menace the health of the numerous children of their homes. Aside from these, twenty-eight patients show improvement, ranging in degree from what we might term "favorable" to arrest of the process. The term "cure" has not been employed, as none of the case have been under observation long enough to justify its use. Nearly all cases that have been dismissed are still under observation. Two patients ran away from the institution, and two after prolonged treatment made no gains.

The average age of the thirty-six patients on admission was twenty years. These patients were, for the most part, school children. A few adults from the near-by villages were treated, which materially raised the age average. The average treatment extended over a period of nine months. Fifty-five per cent of all the patients had lost one or both parents from tuberculosis, and in seventy-five per cent of the total tuberculosis had been the cause of the death of parent, brother, or sister.

In the treatment of all cases, the hygienic-dietetic measures have been depended upon. Medicinal agents have rarely been needed or used. The aim has been to improve health conditions when possible and to impress all patients with the necessity for home sanitation and prophylaxis. The sanatorium can serve as an example in teaching the necessary measures for health conservation to both patient and near-by community, and this has been the aim of the management. The patient, if "cured," must eventually be

sent to his home, and he must avoid the surroundings that caused his downfall and maintain the new standard that may keep him well. The return of the patient to his home must receive as much thought and care as his treatment. He may, as is often the case, fall among unbelievers who will oppose his new regime and make his life a burden, and he is likely to surrender his acquired knowledge and improved health to the lines of least resistance, with the inevitable return of the disease.

The sanatorium in the Indian Service as elsewhere has passed the experimental stage and is now accepted as a vital part of the armamentarium in the campaign against this, the most menacing, ill of the human race. In the Indian Service children and young adults offer the most hopeful field. The schools are educating them along health lines, and they will be able to understand and apply the art of health conservation to every-day living.



Preventive Medicine in the Indian Service:

By Dr. Joseph A. Murphy.



AGREAT change in public opinion is gradually being felt in the attitude toward disease. With the rapidly increasing knowledge of the specific causes of disease, and the method of its spread, and the further perfection of the means for exact and early diagnosis, it becomes increasingly evident that it is not only within the power of the community and the individual to prevent the most common communicable diseases, but it also becomes a moral obligation that the individual protect both himself from the invasion of infection and his neighbor from its extension. It likewise devolves upon the community, the State, and the Nation to protect the health of the people, and to do so along scientific lines.

In order to successfully prevent disease, its exact nature, the consequences to be suffered, the cause, methods of spread, and prevention must be thoroughly understood by all. Cooperation by the individual or the public in any methods intended to prevent disease cannot be secured without this understanding. Education is the basis upon which all efforts to improve health conditions depend, and since the physician is best informed in these matters his responsibility for the instruction of the public becomes correspondingly increased. It also becomes the duty of teachers and other educated citizens to further disseminate the facts in regard to the prevention of disease.

Preventable communicable diseases are alarmingly prevalent among Indians, and are not only a menace to the very existence of the race but are a serious hindrance to any industrial or economic progress. The education of the Indian is largely in the hands of the Federal Government, and the duty of giving them proper instruction in sanitation and prophylaxis constitutes one of the gravest responsibilities. In the past the most important part of the work of the Indian Service physician was conceived to be attendance on and relief of those actually suffering from disease or injury, but this conception has changed, and while this work is still important, the institution of every possible measure to prevent disease constitutes his greatest responsibility. If the physician is so engrossed in the details of ministration to the ills of individuals that

he loses sight of the larger measures for the prevention of these ills, he cannot secure the larger benefit to the greatest number and thus accomplish the best results.

It is the primary duty of the physicians at schools to instruct pupils and employees in health matters in the plainest, simplest, and most practical way. Physicians assigned to agencies should extend instruction to Indians in their homes when called professionally, and should also visit all in their jurisdiction for this purpose.

The teacher shares the responsibility with the physician in the proper and constant instruction of the pupils, and should frequently and regularly impress upon the pupil the reasons and the necessity for the observance of the laws of health, making practical suggestions for their application in every day school and home life. She should by reading and study keep herself thoroughly informed on the subject.

The responsibility for the spread of knowledge for the prevention of disease extends to all employees having dealings with Indians. The field matron is charged especially with this duty, but the farmer, stockman, and all others whose work brings them into contact with Indians should cooperate with the physician in effecting improvement of the sanitary conditions on the reservation.

Frequent, regular, and systematic inspections and examinations of school pupils and reservation Indians for the early detection and diagnosis of communicable diseases, and similar inspections of school and agency buildings and Indian homes, as well as close observations of school and Indian activities, customs, and habits should be made by the physician with the aid of such employees as may be available. Prompt treatment and proper advice should be given, where needed, and helpful recommendations made as the result of these inspections.

Employees in the Service should realize more thoroughly that the Government must rely on them for properly meeting its great responsibility for the eradication and prevention of disease among Indians, and they should faithfully and enthusiastically exert their best efforts in this work. If a spirit of determination for the prevention of disease can be created in the minds of each of the six thousand employees of the Indian Service it will bring about vaster results for the betterment of the Indian race than anything yet conceived.



The Going Around Woman:

By Elsie E. Newton.

THE day was a dark one, with a breeze blowing as only a South Dakota breeze can blow. The doctor and the field matron drove to a little cottage on the hill. In a log hut behind the house lay an Indian woman in the last stages of consumption. This young woman had been away to school, had married, and in her own home she had accustomed herself to better things. But when she became ill, she had been urged to return to her mother's house. The mother could speak no English; she was not a good housekeeper. Although she loved her daughter, yet with the fatality of the Indian when confronted with possible death in the family, she had placed the dying daughter, not in the most comfortable room in the modern house, but in an old log structure with its dirt floor, its small windows, and its general discomfort.

The field matron procured clean bedding and clean clothing for the patient, placed the windows open for ventilation, made provision for the care of the sputum, and the doctor was able to return to his station thirty miles away, knowing that the sick woman would have all the needful attention, and that he would be called again only when necessary. Not only were medicines administered by the field matron, but she watched the patient by night, and protected the family by the use of disinfectants, instructing them in the proper precautions to be taken to avoid taking the disease. And, after the death, who was there to fumigate the house, if not the field matron?

This instance, which came under my own observation, is typical.

If a baby sickens and the home is near enough, daily visits are made, to show the mother how to care for the child properly. If it dies, the matron must see that the shroud is made, and, if the coffin is constructed by the agency carpenter, she must line it and cover it.

But it is not only sickness unto death which claims a field matron's attention. An Indian woman has lately bought a sewing machine, and something has gone wrong with it. The matron must come, locate the trouble, and show the woman how to run the machine. Some other woman who has no means of support can make good baskets, but she is unable to market them. The matron will endeavor to find a purchaser. Here and there are girls who are inclined to be wayward; a timely visit, or an effort to provide them with an occupation, and it may be that they can be induced to mend their ways. There is a cooking club or a mothers' club, or a family day at the laundry, or a day for teaching sewing. Not an opportunity is lost either in common gatherings or in the homes, to say a word, or several dozen words, about better house-keeping and sanitation. At Mrs. A's, for instance, the garbage is strewn all over the yard. As this has happened often, the matron throws considerable sternness into her tone when she calls Mrs. A's attention to it. At Mrs. B's there is a boy with pulmonary tuberculosis. She goes there often to repeat instructions in regard to the measures necessary to prevent the family from contracting the disease. She shows them how to fashion a sputum cup from a newspaper, and how to make a warm and cheap bed covering by using newspapers.

The care of food, ventilation, cleanliness are the subjects of her conversation. Line upon line, precept upon precept, here a little, there a little, this is her method of teaching. The slogan of the field matron is "Clean up, clean up." It is the motto on her wall, the subject of her dream,—it may be the line upon her tombstone. She is known among the Indians as the "Going-Around-Woman;" some day she will have earned the eloquent sobriquet of the "Clean-up Woman."

Dr. Richard Cabot of Boston evolved a system of social service in connection with hospital and dispensary work, which increased the efficiency of both to such a degree that the number of women now employed has grown from one to more than sixty. His theory is that much of the work done by physicians and hospi-

tals is wasted because of conditions in the lives of the individuals over which doctors have no control, and these conditions may be more powerful to prevent a cure than the doctor is to cure. The physician sitting in his office prescribes for his patients without reference to anything but their pathological state, yet there are often good and sufficient reasons why even the prescription itself can not be carried out. For instance, the mother for whose child a certain diet is prescribed, might be entirely unable to procure it.

To remedy this loss of energy in treatment, Dr. Cabot conceived the idea of a follow-up system. Women of tact and discrimination were employed to follow patients into their homes, determine what were the factors retarding recovery, and set to work to correct them. The convalescent out of a job, yet forced to self-support, was helped to some light and suitable employment; the incipient tubercular was found a place in the country; the wage-earning mother of the sick child was relieved of its care until it recovered.

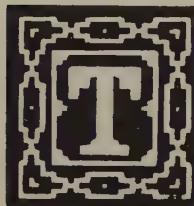
Has not our field matron service an equally broad mission? The health of the Indian family is the paramount subject of field matron work; the improvement of the Indian home is the direct object of her efforts. When the standard of living of the individuals composing the family is raised, and sanitary reforms are carried out, barriers to the further spread of disease will have been erected. To this end, each field matron will contribute to the extent of her ability by teaching, by working with the physician, by personal appeal to each Indian family, and by numberless methods of tactful assistance and advice.





The Trachoma Problem:

By W. H. Harrison, M. D.



RACHOMA is one of the most destructive and dangerous of eye maladies, and owing to its slow, insidious course and absence from pain until complications arise, it is often not recognized even by intelligent patients until they are compelled to consult an oculist for defective vision resulting therefrom.

The existence and prevalence of trachoma among the Indians have added another very important requirement of, and responsibility for, the Indian Medical Service. An extensive personal acquaintance with this malady in some twelve States among the Indians has led me to estimate the number of trachoma patients among the 300,000 Indians at not less than 80,000.

When we realize the communicable and destructive nature of trachoma, together with the long and persistent treatment required to cure a case of even average severity of this disease, the enormous amount of work required to relieve them, or as many of them as are cureable, will be apparent to any experienced physician, to say nothing of the work of prophylaxis which is a duty and responsibility, not only on the medical force, but on almost every other employee in the Service as well, and a special duty and responsibility for superintendents, principals of schools, matrons, disciplinarians, and industrial teachers, under whose immediate supervision and constant care come the entire Indian school population. There should not be a wash basin on the property return of the Indian School Service; but all should be provided with and compelled to wash in flowing water from faucets, or in their absence from the nearest flowing stream. This requirement, together with the "individual towel" rule, fully and competently carried out—and this alone—will prevent the Indian schools from being what they have been in the past—disseminators of trachoma. To hang a towel for each pupil in the washroom and allow it to be used indiscriminately will not accomplish the desired result, namely, the prevention of infection.

It is very essential to the eradication of this malady from among the Indians that it be recognized necessary to attack it; not sporadically, temporarily, and indifferently, as the attitude of an occasional, superintendent toward this problem makes it on his reservation, but to establish a policy with eradication as the sole objective point, and to constantly and officially require the carrying out of this policy by all in administrative and medical charge of Indians.

It is not necessary nor desirable in the plan of eradication to establish trachoma hospitals for the reservation Indians, but to carry this work on by the special eye men now in the field, letting them do a large amount of work on each reservation, instructing and demonstrating to agency physicians, nurses, and field matrons the recognition and management of trachoma. This plan fully carried out, together with the proper handling of trachoma among all Indians of school age, will gradually lessen and finally eradicate it.

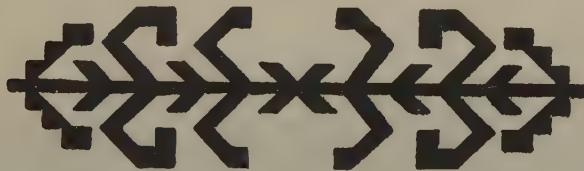
The first, and one of the most important steps in the final solution of the trachoma problem, is that a compulsory educational requirement for all Indians from ages say of five to fourteen or more years be established and rigidly carried out. This will give the physicians an opportunity to locate all trachoma patients and place them under the proper treatment, thus saving the infected children's eyes from deterioration or destruction, and lessening the number of foci of infection.

The second step in the final eradication of trachoma is the establishment of special trachoma boarding schools. One in each State where a sufficient trachoma school population exists, or one in each supervisor's district, if one or two States do not furnish a sufficient trachomatous school population. The placing of physicians in medical charge of these schools who believe in, and know how to handle trachoma is the crowning step in this scheme of eradication.

By the establishment of trachoma schools is not meant the building of new plants, but the utilization of those abandoned plants throughout the Service which from non-use are rapidly falling into decay, such as Fort Shaw in Montana, the one on the Leach Lake Reservation in Minnesota, the one (and it is very badly needed) on the Winnebago Reservation in Nebraska, together with the plants of the Grand Junction and Fort Lewis Schools in Colorado.

Attendance at these schools should be until the pupils are cured,

and six months to one year longer than this pronouncement, to be sure that there is no recurrence. The graduation of one or two trachoma classes will not end the Indian Trachoma Problem, for do all we may, the contagious nature of trachoma and its existence among the reservation Indians will cause the infection of a gradually lessening number of children for years to come, but if some such plan as the above be carefully followed for more than a full generation, the lessened infection of the children by the reservation Indian, will close these trachoma schools—one by one—for lack of such pupils, and this malady will have been eradicated from among the Indians of the United States and the Indians Medical Service will have placed not only the Indians, but the whites as well, under a great and lasting debt of gratitude for efficient service toward the public health.



Work Is Rest.

LET me do my work from day to day
In field or forest, at this desk or loom,
In roaring market place or tranquil room;
Let me but find it in my heart to say,
When vagrant wishes beckon me astray,
"This is my work; my blessing, not my doom,
Of all who live, I am the one by whom
This work can best be done in the right way."
Then shall I see it not too great nor small
To suit my spirit and to prove my powers;
Then shall I, cheerful, greet the laboring hours,
And cheerful turn, when the long shadows fall
At eventide, to play and love and rest
Because I know for me my work is best.

—Henry Van Dyke.

Blood Pressure Studies in the Amerindian:^{*}

By Dr. Harley Stamp.



PHYGMOMANOMETRY is recognized as a most valuable aid not only during the progress of disease but for its service in rendering advance information. It is, of course, impossible to even outline in a few words the scope of the work accomplished and in process of accomplishment.

A proper distribution of blood throughout the body requires a normal circulation, and this process is necessary for the maintenance of the vital functions. By it nourishment is brought to the little cells of which the body is composed and at the same time waste products are removed, and unless this waste is removed the cells sicken and die just as individuals would if surrounded by decaying material, sewage, etc.

This interchange takes place mostly in the part of the circulatory system known as the capillaries. While the heart is at one end of this system and the capillaries at the other end, figuratively speaking, there must be some method of controlling the vessels that carry the blood between these points. The arteries divide into many arterioles, and in the walls of these arterioles are many little muscle cells which relax and contract just as you can relax or contract your biceps. These muscle cells are under control of a certain set of nerves called *vaso-motor*, and to this third factor do we look for the necessary regulation of the flow of blood and we call it *blood pressure*. Blood pressure then is the pressure within against the pressure without, referring to the arterial walls.

There are five main factors in the maintenance of blood pressure, viz:

1. Energy of the heart.
2. Peripheral resistance.

*The space being limited and the subject almost inexhaustible, it seems only reasonable to say that a mere survey leaves much to be desired. The article is in no wise to be considered scientifically complete, but is intended only better to help the students to comprehend a new subject.

It would seem amiss not to mention the courtesies that have been extended by Supervisor Lipps and the corps in general at the Carlisle School in facilitating this work. Almost as important is acknowledgment of the assistance, of a clerical nature, given by many of the students.



Main Building of the Phoenix Sanatorium



A Tent Cottage at the Phoenix Sanatorium



An Indian Home—Unimproved



An Indian Home—Improved

3. Vaso-motor tone.
4. Viscosity of the medium.
5. Amount of blood.

In studying this mechanism we must consider how—

1. Blood is kept in motion.
2. There is maintained a slow steady flow in the capillaries.
3. Blood supply is adjustable.

The heart shows in health a rhythmic contraction, and this rhythmicity is automatic.

The systole is contraction, and diastole is relaxation and rest.

The effect of increasing heart rate is to sacrifice the rest period.

The average rate of heart beat is 72 per minute, hence each beat averages 0.8 second. As the ventricles are at rest five-eighths of the time, the heart muscles are really and actually working only eight to nine hours per day. We say eight hours sometimes, as during sleep the heart beat is often reduced to 60 beats per minute in individuals whose normal beat during active movements would be about 72 per minute.

The way in which a steady flow of blood is maintained in the capillaries is the functional part of the circulating system. Whenever a blood vessel divides, the sum of the area of cross section of its branches is greater than that of the original vessel. You can better conceive this by observing the branchings of a tree. The cross section of the capillary bed is 800 times that of the aorta.

The circulation time in the human body is about 30 seconds. One drop of blood makes the entire round of the body (systemic) in 23 seconds, plus 7 seconds for pulmonary circulation. Only three or four seconds of this time is functional. This explains why a large amount and rapid circulation of the blood is necessary.

Now the blood is under considerable pressure, the maintenance of which is very important. The constant, steady flow through the capillaries is dependent upon this. As we said before, the pumping of the heart alone is not sufficient, but by the small diameter and consequent high resistance of arterioles and capillaries high pressure is secured. Arteries are not rigid and expand under pressure of blood. The pressure of the blood is really tension of the arteries. First, the walls are stretched until the resistance of arterial walls is greater than the resistance due to small diameter. Equilibrium is now established and a steady flow results. Pressure

is effected by the calibre of the arterioles. This resistance to the flow is the arterial pressure. High arterial pressure always means more blood in the arteries. It is important to remember this reciprocal arrangement. More arterial pressure means lessened venous pressure; venous falls as there is only a definite amount of blood in the body.

When 100 c.c. is calculated as an average outflow, the heart is equal to $\frac{1}{240}$ horsepower engine. Vaso-constriction controls the supply of blood, as there is not enough blood in the body to supply all organs at top demand. Skin and splanchnic areas are areas of great dilation during sleep, and hence are so-called reservoirs. If the tubes were rigid instead of elastic the escape would equal intake, hence a very high pressure.

In case of the arteries there is a tendency for yielding, and this stretching continues until the point of equilibrium is reached where capillaries have a steady flow, and this is then equal about to intake.

While much work has been done on the Caucasian blood pressures, we believe the present work is the first on the Amerindian. It seemed desirable to make comparative studies on the different races, and to this end to date we have made some 50,000 observations and calculations.

The first of these were made on various Indian reservations where the Indians lived, to some extent at least, after the style of their forefathers. It was observed that the pulse pressures were considerably higher than in Caucasians living in their normal habitats. How produced and what were the causes that brought this about? Undoubtedly the mode of life on the reservation, sedentary and inactive, compared to the active open-air existence formerly followed by the Amerindian, has had untoward effects. Infections of various kinds have resulted with accompanying toxemias. For comparison the life of Amerindians living in modern, sanitary surroundings, with regular meals and other regular habits as exhibited at the Carlisle School, are now being studied in an endeavor to find out, if possible, *wherein is the cause of the great difference in blood pressures and pulse pressures and to give suggestions perhaps to better conditions.*

As an example as to the benefits to be derived in athletics, we

might mention a few instances garnered from the Lafayette-Indian meet recently held on the Carlisle athletic field.

Joe Guyon was examined before and after his race and at intervals of five minutes until he had returned to a normal condition, as shown by the following table:

220-yard race.

	Systolic.	Diastolic.	Pulse.	Pulse Pressure.
Before.....	120	80	84	40
After.....	165	50	168	115
15 min. after....	135	75	108	60
30 min. after....	130	80	84	50
45 min. after....	120	80	84	40

Another athlete was examined and a record made, and suggestion was made that he should not enter. The sphygmomanometer* revealed his poor physical condition, and corroboration was found in the fact that this athlete fell out in the third quarter and was unable to finish. His condition is shown by the table below:

	Systolic.	Diastolic.	Pulse.	Pulse Pressure.
Before.....	130	55	60	75

Such a brief outline is very incomplete, but it is hoped at least to aid to an understanding of why the work in hand is being undertaken.

The work is still far from finished, yet enough has been done to say that very gratifying results are being obtained and that modern sanitation, regular habits, etc., as maintained at the Indian School, are already warranted factors in the making of normal and healthful conditions. The results in detail will appear later.

*After using many different makes of instruments of both varieties, mercury and aneroid, the Faught Sphygmomanometer was chosen as the most desirable on account of convenience, accuracy, and ease of manipulation.

The Prayer of a Sioux Indian.



THOU GREAT SPIRIT OF THE UNIVERSE, good and powerful as Thou art, whose powers are displayed in the splendors of the sun, the glories of the night, the foliage of the forest and the roaring of the rivers and the great waters of the deep, look down from Thy majestic throne of grace and shed the bounties upon all red men. And do Thou, O Great Spirit, inspire each red man's breast with that holy courage that teaches him to paddle his own canoe safely to that undiscovered country from which bourne no traveler returns. Teach him truth and wisdom and brotherly love toward his brother red man; grant that his walks may be upright and pleasing in thy sight; banish all discord from our council that our council fire may forever burn to thy glory.

Reward our labors twofold, and may the red man and the paleface be friends, and may we show to the stranger that with us truth, love, freedom, and friendship dwell. Inspire our great councils with wisdom that they go not astray and follow the path of the evil spirit; preserve our homes from danger; make us wise and virtuous, and teach us the trail that we must follow while we remain in the forest of life: and, when it is thy will to call us to cross the river of death, take us to thyself where the council fire forever burns to Thy Glory.

O, Thou Great Spirit, hear us!



Work of the Toledo Sanatorium:

By Dr. R. L. Russell.



S THE Sac and Fox Sanatorium has but recently opened its doors to patients, the subject assigned to the writer must necessarily be modified somewhat and the allotted space devoted to telling what we propose to do for the Indian children who are committed to our care. The success attained in the service sanatoria at Fort Lapwai, Phoenix, and Laguna led the office to remodel the abandoned Sac and Fox Indian School plant into a sanatorium, and to assign it for the use of tuberculous children from the agencies of the Middle West. That the efforts of the office are appreciated by Indian parents is evidenced by the fact that, although hardly ready for the reception of patients, seventeen are now in our wards, and sufficient applications are under consideration to more than occupy every bed.

Included among the cases already enrolled are incipient and moderately advanced pulmonary, both with and without glandular involvement, and glandular and lupus cases without discoverable lung lesions. Several joint cases will be treated also, and these, with cases of the above kinds, will constitute our enrollment.

The pulmonary cases are from the Indian schools, and all are cases with good prognoses in whom the disease will ultimately become arrested, provided they continue present treatment. They are typical, however, of the great class of children who suffer from physical breakdown in our schools and who in a great majority of cases have heretofore been returned to their homes to die.

Already the institutions at Phoenix and Fort Lapwai have restored to good health numbers of just such children, and we, of course, are anticipating equally good results.

Our glandular cases, with one exception, all present open lesions and are cases of long standing, several with histories in which the disease has been of more than five years duration, and in which the disease, at one time or another, has affected both cervical and axillary glands, in the regions of which evidences of its ravages are manifested by great disfiguring scars.

These cases without exception are showing, as a result of a few days' treatment only, great improvement. Compulsory adherence to our well-regulated regimen, and the therapeutic use of tuberculin will work wonders. These boys and girls would otherwise

go from bad to worse, and many eventually die from pulmonary invasion.

While essentially a hospital devoted to the treatment of tuberculous children, the administration will not lose sight of the fact that these same children should not if possible lose much time from their school work. As their health permits they will be required to attend classes regularly, but such attendance will be for short periods daily in an open air school and upon the prescription of the superintendent.

When thoroughly established we shall follow rather closely the routine in force at the Fort Lapwai Sanatorium, and it will be a system in which the whole day is devoted entirely to the welfare of our patients.

With a farm of marvelous fertility, gardening will naturally be prescribed for those requiring graduated exercise and, as many of our patients will be of this class, a system of elaborate gardens have been planned with a view to their needs. Crops which will require attention from now until winter will be planted at various times and we will soon have them ready for the attention of the children.

A modern dairy barn, in which is housed a fine herd of registered Jerseys, is equipped for instruction in dairying. Under the direction of a competent dairyman, selected patients will be taught the principles and given actual experience in the art of dairy farming, an occupation especially suited to cases with arrested tuberculosis.

With a routine designed to conserve the strength of the patient and to increase his resistance against the inroads of this disease, and at the same time to keep in mind the tempermental peculiarities of the growing child and to meet his demand for mental diversion, I believe that as now organized this institution will admirably serve the purpose for which it has been established.

The response of Indian parents to the awakening of the Indian Office to the fact that it owed more to the Indian with tuberculosis than mere good advice is shown by the older hospitals being already filled to their capacities, and the enthusiasm of the Service physicians more than parallels office interest, so that to-day the tuberculosis problem as presented by our Indians is receiving greater attention than ever before.



Experimental and School Gardens of the Ft. Lapwai School and a View of Some of the Buildings



Fort Lapwai Tuberculosis Sanatorium School—Formerly the Post Hospital
at Fort Lapwai. Capacity, Fifty Boys



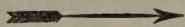
Students of the Sanatorium School Returned from Non-Reservation
Schools on Account of Tuberculosis

Sanitation in Indian Homes.

COMPULSORY sanitation of Indian homes has been advocated. The practical objection to it is the lack of adequate machinery to carry it out. On some of the large reservations it would be almost a physical impossibility; among the citizen Indians it could not be undertaken at all, since they are under the health regulations of the state in which they live. I have no doubt that there are places where it could be applied with a reasonable degree of success, but it would have to be done with deliberation and judgment.

The only antidote to unsanitary housing is proper education, and I have persistently advocated a practical preparation of Indian girls in those matters relating to the home and children. To every school should be attached a small, inexpensive, model house, built after the type which can be most readily imitated by the Indians of the locality, and in such a house, in small groups, the simple, elementary things of homemaking and child care should be taught. The equipment must be simple and inexpensive. The foodstuffs of the reservation should be the starting point of all instruction in cooking; and the making of a layette and clothes for small children should be included in the sewing course. Cost of materials, sanitation of a small home, personal hygiene, care and feeding of children, house management, the kitchen garden, home nursing, and the art of hospitality—these are the essential things to be taught.

—*Elsie E. Newton in the Southern Workman.*



Encouraging Indian Art.

IN A recent number of the *Outlook* Miss Natalie Curtis has contributed an article on "The Perpetuating of Indian Art." On the subject of music, which is the particular art to which she refers, Miss Curtis speaks with authority, for her sympathetic and intelligent study of it during all these years has led her deep into its mystery and meaning. Her particular plea is for the teaching of the native music to Indian youth by the older Indians. She finds that, in spite of our systematic efforts in the past to destroy the song impulse in the Indian, the native music is still a live force in native life. For the schools, therefore, to encourage in the younger generation the creative instinct in music would earn for them the thanks of all who are interested in the art, in ethnology, and in the true progress of the Indian. But this is a native art, and obviously it can be taught only by the natives. The suggestion that the songs, collected from the older Indians, might be "harmonized," and that these inevitably distorted versions should then be taught to the young Indians by white school-teachers seems to her palpably absurd. Manifestly there could be nothing of true value to the Indian in the white man's arrangement of his songs. Her argument is that if any one is to teach Indian songs in the schools it would seem that the older Indians should do so. Certainly the co-operation of the old Indians, so far as it is practically possible, must prove the most effectual way of perpetuating music or any other art in Indian life.—*Southern Workman.*

Be Glad

Be Glad of Life, because it gives you the chance to love and to play and to work and to look up at the stars; to be satisfied with your possessions, but not content with yourself until you have made the best of them; to despise nothing in the world except falsehood and meanness and to fear nothing except cowardice; to be governed by your admirations rather than by your dislikes; to covet nothing that is your neighbor's except his kindness of heart and gentleness of manner; to think seldom of your enemies, often of your friends, and every day of Christ; and to spend as much time as you can, with body and with spirit, in God's out-of-doors—these are little guide posts on the footpath to Peace.

HENRY VAN DYKE

“ONCE upon a time the citizens of a certain city in Greece were greatly interested in the nurture and training of children. When the question arose as to whether they should build a great public school or open a playground, it was decided to open a playground. Now, in the course of years, it came to pass that the citizens of that city advanced so far beyond the rest of the human race that in all the centuries since, even to this day, the nations that have gone on building public schools and neglecting to open playgrounds have not been able to catch up with them.”

YES, I said an attractive play ground. No one feels particularly athletic at the sight of a rock pile or a weed patch, but every normal boy has a "Ty Cobb" inclination when he sees a well laid off diamond.